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UNDER THE DIRECTION OF THE COMMITTEE OF GENERAL LITERATURE AND EDUCATION APPOINTED BY THE SOCIETY FOR PROMOTING CHRISTIAN KNOWLEDGE.

CASTLE BROICHIN, ISLE OF RAASAY.

THE RUINS OF CASTLE BROICHIN, ISLE OF RAASAY.

The Island of Raasay is one of the small islets of the group of the Hebrides, or Western Islands of Scotland; it is situated between the island of Skye and the mainland; in length it is about twelve miles, and from two to five in breadth. The curious ruin represented in the engraving is on the eastern coast of the island, and presents one of the most remarkable specimens of the strong-holds of the ancient chiefs of the Hebrides. The view of the mountain-scenery of Scotland, from the precipitous rock on which this castle is situated, is splendid in the extreme. The rock on which it stands is nearly round, and the area on which the building is erected is not more than seventy feet square, and about forty feet in height, resting, however, on another rock of larger dimensions, which is about sixty feet from the level of the sea. This latter rock is of that species called pudding-stone, from the various materials of which it is formed; it appears to be of volcanic origin, is extremely hard, but, when cut and polished, presents a very beautiful and remarkable appearance, containing a rude resemblance of trees and mountains. In this part of the isle there are several rocks of the same kind, one of which, in the immediate vicinity of the castle, resembles an old and ruinous wall; it is from five to eight feet thick, and forty long, and in many places is covered with ivy.

The castle consists of two stories, with a kind of attic; the rooms are very small, excepting one, which is supposed to have been the kitchen, and two others,

eleven feet square and as many in height, which contain chimneys. In a small open court in the centre, there was originally a well, for the supply of the garrison. The whole of the building is now in a very dilapidated state, the roof itself having fallen in some years back.

The last account of its being tenanted is in the reign of James the Sixth of Scotland, when it is said to have been occupied by John Garble, a predecessor of the present Laird of Raasay. He was distinguished as a man of uncommon strength, and, among other instances of it, which have been commemorated by tradition, is that of his having lifted a large round stone, still to be seen in the middle of the island; the weight of which is so great that two strong men can scarcely move it.

At a short distance, on the north side of the castle, are the ruins of a Roman Catholic chapel, in the sanctuary of which it is reported enormous human bones are to be found, very far surpassing in size those of the present race of mortals. The truth of this story, however, only rests on popular belief.

The steep precipices with which this little island is surrounded, render the neighbourhood of the coast very dangerous to children, and to guard against accidents of this nature, a simple but necessary precaution is adopted by those inhabitants who live in the neighbourhood of the rocks. When the women have occasion to go from home on their various avocations, they tether their children like lambs to some heavy stone, leaving them, of course, no greater circuit than is consistent with their safety.

Large beds of freestone are found in Raasay, and among its natural curiosities may be noticed a petrifying spring. The chief produce on which the inhabitants depend for their subsistance are black cattle, sheep, and goats. The coasts also abound with fish.

EDUCATION OF PIPING BULLFINCHES.

IN the month of June, the young ones, which are sought for in the nests of wild birds, are taken when about ten days old, and brought up by a person, who, by care and attention, so completely tames them, that they become perfectly docile and obedient. At the expiration of about a couple of months, they first begin to whistle, from which time their education begins; and no school can be more diligently superintended by its master, and no scholars more effectually trained to their own calling, than a seminary of Bullfinches. They are formed first into classes of about six in each,—and after having been kept a longer time than usual without food, and confined in a dark room, the tune they are to learn is played over and over again on a little instrument called a bird-organ, the notes of which resemble as nearly as possible those of the Bullfinch. For a time, perhaps, the moping birds will sit in silence, not knowing what to make of these proceedings, but after a while they will one by one begin to imitate the notes they hear. As soon as they do this, light is admitted into the room, and they are allowed a small supply of food. By degrees, the sound of the organ, and the circumstance of being fed, become so associated, that the hungry bird is sure to imitate the notes, as soon as it hears them. They are then turned over to the care of boys, whose sole business it is to go on with their education, each boy having a separate bird placed under his charge, who plays away from morning to night, or at least, for as many hours as the birds can pay attention, during which their first teacher or feeder goes his regular rounds, scolding or rewarding his feathered scholars, by signs and modes which he has taught them to understand, until they become so perfect, and the tune, whatever it may be, so imprinted on their memory, that they will pipe it for the remainder of their lives.—STANLEY'S *History of Birds.*

PEOPLE frequently reject great truths, not so much for want of evidence as for want of an inclination to search for it.—GILPIN.

WATER-BIRDS IN THE PARKS OF LONDON.

THE metropolis has lately received a most acceptable addition to those valuable institutions, the formation of which has of late years been a marked feature in the improvement of London. We have already spoken*, with well-merited approbation, of the Zoological Society of London, and of a similar establishment in Surrey; and we have now to record the formation of an ORNITHOLOGICAL SOCIETY, for the purpose of stocking the waters of the London parks with every variety of Water-fowl, which can be procured and maintained in that locality. For this invaluable boon the public is indebted to the taste and liberality of an association of gentlemen, who combine with their love of nature and zeal in the cause of science, a desire to promote the innocent enjoyment of the humbler classes of society. Most anxiously is it to be hoped, that the public at large will duly appreciate the privilege thus gratuitously bestowed, and aid in the preservation of so interesting a collection of beautiful specimens of natural history.

The following are extracts from the prospectus:

ST. JAMES'S ORNITHOLOGICAL SOCIETY.

THIS Society is instituted for the purpose of forming a collection of Water-birds in the garden of Saint James's Park; and its operations will subsequently be extended to the waters in the other Parks, if the funds of the Society be found sufficient.

The first object will be to exhibit a complete collection of the British species of the genus *Anas* of Linnæus, from the swan to the smallest of the ducks both residents and occasional visitants.

The Society is already in possession of about one half of the species referred to, and has, moreover, some specimens belonging to other genera. The Society will endeavour, ultimately, to obtain specimens of every species of hardy aquatic birds; Waders, Swimmers, and Divers. The whole collection will be kept, as far as possible, in a state of nature, and, being formed in the Public Parks, will, of course, be open to the view of all classes of the people.

As there is in London no other Society exclusively ornithological, it is unnecessary to point out to Ornithologists the advantages which may result from an Institution possessed of a locality so admirably suited for a collection of aquatic birds, and for affording facilities for observations upon the variations and periodical changes of plumage, which are so interesting to Naturalists, and so difficult to be observed elsewhere.

It is not, however, to the scientific alone that the Society appeals for support,—it confidently addresses itself to all lovers of the beauty of nature; to all who can appreciate the charm which the feathered tribes, that most beautiful portion of the animate creation, are capable of lending to ornamental water.

To render the proposed collection worthy of the metropolis and the scene will require a considerable expenditure, but there is not at present any specific amount for individual subscription, and any donation will be received.

Presents of "Desiderata" will be particularly acceptable.

The Society has no privileges to claim or to offer, save those of rendering a service to science, and contributing to the amusements and information of the public.

The proceedings of the Society are sanctioned and approved by the Commissioners of Woods and Forests, and they have kindly undertaken some alterations in the garden for the better security of the collection.

We propose, on future occasions, to record the progress of this interesting Society, and to furnish particulars of the specimens.

* See *Saturday Magazine*, Vol. IX., p. 90

I NEVER regarded the character of a mere linguist with any admiration. Butler has hit it off with great spirit. He that has many languages to express his thoughts, and none worth expressing, he compares to one that can write all hands, but never the better sense; or can cast any sum of money, but has none.—*Conversations at Cambridge.*

VARIETY OF ORGANIZATION CORRESPONDING TO THE VARIETY OF CLIMATE

II.

By differences in vegetables of the kind we have described, the sustentation and gratification of man's physical nature is copiously provided for. But there is another circumstance, a result of the difference of the native products of different regions, and therefore a consequence of that difference of climate on which the difference of native products depends, which appears to be worthy our notice. The difference of the productions of different countries has a bearing not only upon the physical, but upon the social and moral condition of man.

The intercourse of nations in the way of discovery, colonization, commerce; the study of the natural history, manners, institutions of foreign countries; lead to most numerous and important results. Without dwelling upon this subject, it will probably be allowed that such intercourse has a great influence upon the comforts, the prosperity, the arts, the literature, the power, of the nations which thus communicate. Now the variety of the productions of different lands, supplies both the stimulus to this intercourse, and the instruments by which it produces its effects. The desire to possess the objects or the knowledge which foreign countries alone can supply, urges the trader, the traveller, the discoverer, to compass land and sea; and the progress of the arts, and advantages of civilization, consists almost entirely in the cultivation, the use, the improvement of that which has been received from other countries.

This is the case to a much greater extent than might at first sight be supposed. Where man is active as a cultivator, he scarcely ever bestows much of his care on those vegetables which the land would produce in a state of nature. He does not select some of the plants of the soil, and improve them by careful culture; but, for the most part, he expels the native possessors of the land, and introduces colonies of strangers.

Thus, to take the condition of our own part of the globe as an example; scarcely one of the plants which occupy our fields and gardens is indigenous to the country. The walnut and the peach come to us from Persia; the apricot from Armenia; from Asia Minor, and Syria, we have the cherry-tree, the fig, the pear, the pomegranate, the olive, the plum, and the mulberry. The vine which is now cultivated is not a native of Europe; it is found wild on the shores of the Caspian, in Armenia and Caramania. The most useful species of plants, the *cereal* vegetables, are certainly strangers, though their birth-place seems to be an impenetrable secret. Some have fancied that barley is found wild on the banks of the Semara, in Tartary; rye in Crete; wheat at Baschkiros, in Asia; but this is held by the best botanists to be very doubtful. The potato, which has been so widely diffused over the world in modern times, and has added so much to the resources of life in many countries, has been found equally difficult to trace back to its wild condition.

Thus widely are spread the traces of the connexion of the progress of civilization with national intercourse. In our own country a higher state of the arts of life is marked by a more ready and extensive adoption of foreign productions. Our fields are covered with herbs from Holland, and roots from Germany; with Flemish farming, and Swedish turnips; our hills with forests of the firs of Norway. The chestnut and poplar of the south of Europe adorn our lawns, and below them flourish shrubs and flowers from every clime in profusion. In the mean time, Arabia improves our horses, China our pigs, North America our poultry, Spain our sheep, and almost every country sends its dog. The products which are ingredients in our luxury, and which we cannot naturalize at home, we raise in our colonies; the cotton, coffee, sugar, of the east, are thus transplanted to the farthest west; and man lives in the middle of a rich and varied abundance, which depends on the facility with which plants and animals and modes of culture can be transferred into lands far removed from those in which nature had planted them. And this plenty and variety of material comforts is the companion and the mark of advantages and improvements in social life, of progress in art and science, of activity of thought, of energy of purpose, and of ascendency of character.

The differences in the productions of different countries which lead to the habitual intercourse of nations, and through this to the benefits which we have thus briefly noticed, do not all depend upon the differences of temperature and climate alone. But these differences are among the causes, and are some of the most important causes, or conditions, of the variety of products; and thus that arrangement of the earth's form and motion from which the different climates of different places arise, is connected with the social and moral welfare and advancement of man.

We conceive that this connexion, though there must be to our apprehension much that is indefinite and uncertain, in tracing its details, is yet a point where we may perceive the profound and comprehensive relations established by the counsel and foresight of a wise and good Creator of the world and of man, by whom the progress and elevation of the human species was neither uncontemplated nor uncared for.

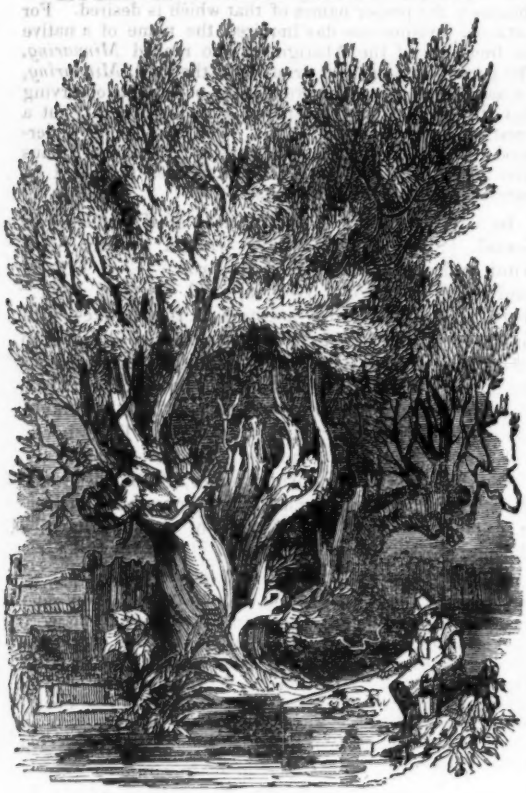
* * * * * * * * * * *

We have traced, in the variety of organized beings, an *adaptation* to the variety of climates, a *provision* for the sustentation of man all over the globe, and an *instrument* for the promotion of civilization and many attendant benefits. We have not considered this *variety* as *itself* a purpose which we can perceive or understand without reference to some ulterior end.

Many persons, however, and especially those who are already in the habit of referring the world to its Creator, will probably see something admirable in itself in this vast variety of created things. There is indeed something well fitted to produce and confirm a reverential wonder, in these apparently inexhaustible stores of new forms of being and modes of existence; the fixity of the laws of each class, its distinctness from all others, its relations to many. Structures and habits and characters are exhibited, which are connected and distinguished according to every conceivable degree of subordination and analogy, in their resemblances and in their differences. Every new country we explore presents us with new combinations, where the possible cases seemed to be exhausted; and with new resemblances and differences constructed as if to elude what conjecture might have hit upon, by proceeding from the old ones. Most of those who have any large portion of nature brought under their notice in this point of view, are led to feel that there is, in such a creation, a harmony, a beauty, and a dignity, of which the impression is irresistible; which would have been wanting in any more uniform and limited system such as we might try to imagine; and which of itself gives to the arrangements by which such a variety on the earth's surface is produced, the character of well-devised means to a worthy end.

[WHEWELL's *Bridgewater Treatise.*]

NOTES ON FOREST TREES. No. III.



THE WILLOW, (*Salix alba.*)

THE family of the Willow contains many species and varieties; those best known are the Withy, or Crack Willow, (*Salix fragilis,*) the celebrated Weeping Willow, (*Salix Babylonica,*) the common Osier, (*Salix viminalis,*) and the White Willow, (*Salix alba,*) figured in the engraving. To form some idea of the extent of the genus *Salix*, we may observe that more than thirty years ago a botanist enumerated no less than 116 species.

The wood of all this tribe being extremely quick of growth, is generally light, soft, and white, but useful for many purposes, particularly for all kinds of basket-work; the species most commonly planted are the Osier and the Withy, which are grown as pollards, in lands covered by the tide at high-water, or in marshy soils near the water, which are frequently inundated after heavy rains. If intended as an ornament in landscape, and to be allowed to stand until it has attained a considerable size, the White Willow is planted. The wood of this tree, as well as that of several other species, is employed, when cut into narrow shavings, for the purpose of manufacturing willow-bonnets.

But the only tree of this genus which really deserves the name of ornamental is the Weeping Willow, whose beautiful pendent branches form so great an ornament to the banks of ponds and other artificial pieces of water. This elegant tree is a native of the Levant, and is said to have been first introduced into England by the poet Pope, who, having received a present of figs from Turkey, observed that one twig of the basket which contained them was putting out a bud; he planted it in his garden at Twickenham, where it soon grew to a fine tree, and from this tree all the Weeping Willows of England are said to have proceeded. This species of Willow has always been a favourite with the poet and the painter, from its elegant form, and the numerous associations of ideas to which it gives rise. It is noticed in Holy Writ, in the beautiful lamentation of the daughters of Israel, during the Babylonian captivity: "By the rivers of Babylon, there we sat down, yea, we wept, when we remembered Zion; we hanged our harps upon the willows in the midst of them." This passage has been elegantly paraphrased, in the following lines, by the Rev. Thomas Dale, Professor in King's College, London:

By Babylon's proud stream we sate,
And tears gushed quick from every eye,
When our own Zion's fallen state
Came rushing on our memory;
And there, the willow-groves among,
Sorrowing, our silent harps we hung.

For there our tyrants in their pride,
Bade Judah raise the exulting strain,
And our remorseless spoilers cried,
"Come breathe your native hymns again."
Oh, how in stranger climes can we,
Pour forth Jehovah's melody?

When thou, loved Zion, art forgot,
Let this unworthy hand decay;
When Salem is remembered not,
Mute be these guilty lips for aye!
Yea, if in transport's livelier thrill,
Thou, Zion, art not dearer still!

The Weeping Willow has been constantly employed as an emblem of grief; it is placed over tombs, and, from its gracefully-drooping foliage, might almost be supposed to be weeping over the monument it decorates. It is generally planted, in landscape scenery, at the water's edge, near "some romantic footpath-bridge, which it half conceals, or some glassy pool over which it hangs its streaming foliage,

. . . . . 'and dips
Its pendent boughs, stooping as if to drink.'"

A. Catkins, or Blossoms. B. Leaves and Seed-pods.

The Weeping Willow having been so recently introduced into England, we are unable to record any remarkable specimens, but the White Willow is found in some parts of the country of a considerable size.

A Willow at Alderston, near Haddington, in Scotland, at three feet from the ground, measures thirteen feet in girth.

The Abbot's Willow, at Bury St. Edmund's, is seventy-five feet high, and eighteen feet six inches in girth; it covers an area 204 feet in diameter, and contains 440 feet of solid timber.

We have already said the wood of the Willow is much used in basket-making, but in ancient times

this useful wood was applied to many other purposes. The shields of soldiers were formed of basket-work sometimes covered with hides. The coracles of the ancient British were made of wicker-work covered with leather, and Herodotus mentions boats of the same kind on the Tigris and Euphrates, and others of a similar construction are still employed in the East Indies; but in this case thin slips of bamboo are used instead of osiers.

The flat moist lands of Holland are excellently adapted for the purpose of growing the Willow, and the Dutch Willows are consequently in high repute.

The manufactory of baskets is carried on by these people to a great extent, and vast quantities are exported. Basket-making affords employment also to many of those unfortunate beings who are deprived of the sense of sight.

AUSTRALIAN GRAMMAR.

II.

After a lapse of some time, we return to our notice of this curious work*, the importance of which, as preparatory to the translation of the word of God into an hitherto unwritten language, may, one day, with His blessing on the undertaking, prove considerable. The author, in his dedication to Archdeacon Broughton, (now Bishop of Australia,) observes:—

To the mere philosopher this grammar will afford abundant matter for speculation; in addition to which, the Christian will perceive another instance of the Providence of Him who has said, "*I will draw all men to me.*" For this object alone the laborious task has been undertaken; and it must be considered only as the prelude to the attempt of bringing the Aborigines of New South Wales to the knowledge of God our Saviour. *For how shall they believe in him of whom they have not heard? And how shall they hear, without a preacher,* in their own tongue, *the wonderful works of God?*

The arrangement of the Australian Grammar appears to have been made agreeably to the natural principles of the language, and not strained to accord with any known grammar of the dead or living languages, the peculiarities of its structure being such as to prevent the adoption of any one as a model. Difficulties have arisen to the writer, partly in consequence of the variety of dialects used in the islands, and partly from the want of association with the blacks, whose wandering habits, in search of game, preclude the advantages of daily conversation. But it may be reasonably expected, that a thorough acquaintance with even one dialect, when written and reduced to rule, may materially assist in obtaining a satisfactory knowledge of the others. Mr. Threlkeld says:—

Although tribes within one hundred miles do not at the first interview understand each other, yet I have observed, that after a very short space of time they are able to converse freely, which could not be the case were the language, as many suppose it to be, radically distinct. The number of different names for one substantive at once occasions a difficulty. *Water*, for instance, has at least five names, and *Fire* has more. *The Moon* has four names according to her phases, and the *Kangaroo* has distinct names for each sex,—according to size, and the different places of haunt, so that two persons would seldom obtain the same name for a Kangaroo if met wild in the woods, unless every circumstantial was precisely alike to both inquirers. The quality of a thing is another source from which a name is given, as well as its habit, or manner of operation. Thus one man would call a musket, "a thing that strikes fire;" another would describe it as "a thing that strikes," because it hits an object; whilst a third would name it "a thing that makes a loud noise," and a fourth would designate it *a piercer*, if the bayonet was fixed. Hence arises the difficulty to persons unacquainted with the language, in obtaining the proper names of that which is desired. For instance, a visiter one day inquired the name of a native cat from one of the Aborigines, who replied *Minnaring*. The person was about to write down the word, *Minnaring*, "a native cat," when I prevented the naturalist, observing that the word was not the name of the native cat, but a question, namely, *What is it?* "you say" being understood: the black not understanding what was asked. Thus arise many of the mistakes in vocabularies published by transient visiters of foreign parts.

In a "Description of the Natives of King George's Sound, (Swan River Colony,) written by Mr. Scott Nind, and communicated by R. Brown, Esq., F.R.S., read before the Royal Geographical Society, 1831," there is an interesting account of the natives, and also a vocabulary, from which it would be difficult to gather the fact of the affinity stated to exist among the dialects. Time and intercourse, however, with the addition of such laudable efforts as Mr. Threlkeld has exhibited in the composition of this little book will probably ascertain the fact.

We alluded, in our former paper, to the necessity of referring to certain customs among the natives in order to give an idea of some of the peculiarities of their language.

The peculiarity of the *reciprocal dual*, for example, as employed by these Aborigines, may be illustrated by reference to a custom among them, namely,—When a company meet to dance, (says our author,) each *lady* and *gentleman* sits down opposite to the other, and reciprocally paints each other's cheek with a red pigment; or if there be not a sufficiency of females, the males perform the reciprocal operation. Also in duelling, (a practice they have in common with other barbarous nations,) the challenge is expressed in the reciprocal form.

The following extract will be allowed amply to prove, that the *genius* of the Aboriginal Australian forbids the adoption of any other grammar, as a model for its own!

Of Adjectives and Participles.—Adjectives have no particular ending, it depending entirely on their situation, or on particles, whether they are substantives, adjectives, verbs, or adverbs; as, *Mur-ro-róng*, Good; *Ya-ra-kai*, Bad; *Ko-néin*, Pretty. Decline these according to their terminations, with the particles of agency affixed, they would then become agents, and, consequently, nouns, as, *Mur-ro-róng-ko*, the good one; *Ya-ra-kai-to*, the bad or evil one; *Ko-néin-to*, the pretty, respectively, *did*, *does*, or *will do*, &c., but participles in the passive voice terminate always in the compound particle *tó-a-ra;* the root of the verb being prefixed either with or without the causative particles, according to the sense required; as, *Ki-yu*, is the root of, to roast with fire, to scorch, to broil;

Ki-yu-ba-tó-a-ra, That which is roasted,
Ki-yu-ba-tó-a-ra bang, I am roasted.

Adjectives denoting abundance, are often formed by a reduplication; as, *Mur-ro-róng*, good; *Mur-ro-róng-mur-ro-róng*, excellent, abundance of good; *Kau-wul*, great, large, big; *Kau-wul-kau-wul*, many, abundance.

Of Numbers.—Numbers are only cardinal: they are declined as nouns, so far as their numbers extend; namely, *Wa-kǫ̀l*, one; *Bu-lo-a-ra*, two; *Ngo-ro*, three; *Wa-rán*, four;—beyond which there are no further numbers, but the general term *Kau-wul-kau-wul*, much, or many. The interrogative of quantity, or number, is *Min-nán?* i. e. How many? the answer would be in any of the above numbers, or thus; *Kau-wul-kau-wul ko-re*, many men; or, *Wa-re-a-ko-re*, few men. To express what are denominated ordinal numbers, so far as the above numbers extend, can only be done in the declension of the noun to which they may be attached, the adjectives being also subject to declension, according to their own termination, independent of the termination of the noun; as,—

Pur-re-ung ka ngo-ro ka, On the third day.
Ko-lai-to-a ngo-ro-ko-a, At the third tree.

Among the various forms of Verbs are reckoned the following.

3. *Active-transitive-Reciprocal* or those which denote

* See *Saturday Magazine*, Vol. VIII., p. 6.

an action that passes from the agent to some external object, which object returns the action to the agent, who then becomes the object, and thus they act reciprocally one towards the other. Consequently the dual or plural number is always the subject of this form of the verb: as, *Bún-kil-lán ba-li*, thou and I strike each other reciprocally. *Bún-kil-lán ba-ra*, they strike each one the other reciprocally, or fight with blows.

4. *Continuative;* as, *when the state continues, or the action is or was continued in without interruption:* as, *Bán-kil-li-lín bang*, I am now continuing in the action of making blows. It may be threshing, or any other act, as beating, &c.

5. *Causative by permission*, or *preventive with a negative:* as, when we permit a person to do the act, or another to do the act to him: as, *Bám-mun-bil-la-bón*, let him strike; *Bám-ma-ra-bun-bil-la-bón*, cause some one to strike him, or the equivalent, let him be struck. *Bám-ma-ra-bun-bi yi ko-ra bón*, let no one strike him. *Bám-ma-ra-bun-bil-li-a ti-a nga-tó-a bo*, I myself permit any one to strike me.

13. *Inceptive*, or those which describe the state as actually beginning to exist, or energy being put forth at the time spoken; as, *Bán-kil-li kó-lang báng*, I am now going to strike.

We propose, in a future paper, to give some notion of the melancholy superstitions prevailing among these poor benighted heathens; the catalogue of which is contained in the same work, and published with the same benevolent object of promoting the cause of true religion among "a foolish nation."

BIRDS.

YE birds that fly through the fields of air,
What lessons of wisdom and truth ye bear!
Ye would teach our souls from earth to rise,
Ye would bid us its grovelling scenes despise—
Ye would tell us that all its pursuits are vain,
That pleasure is toil—ambition is pain—
That its bliss is touched with a poisoning leaven—
Ye would teach us to fix our aim on heaven

Beautiful birds of the azure wing,
Bright creatures that come with the "voice of Spring,"
We see you array'd in the hues of the morn,
Yet ye dream not of pride, and ye wist not of scorn.
Though rainbow splendour around you glows,
Ye vaunt not the beauty which nature bestows—
Oh! what a lesson for glory are ye—
How ye preach of the grace of humility.

Swift birds that skim o'er the stormy deep,
Who steadily onward your journey keep,
Who neither for rest nor slumber stay,
But press still forward by night and day—
And in your unwearying course yet fly
Beneath the clear and the clouded sky,
Oh! may we, without delay, like you,
The path of duty and right pursue.

Sweet birds that breathe the spirit of song,
And surround heaven's gate in melodious throng,
Who rise with the earliest beams of day,
Your morning tribute of thanks to pay—
You remind us that we alike should raise
The voice of devotion and song of praise.
There's something about you that points on high,
Ye beautiful tenants of earth and sky!

C. W. THOMSON.

ON WASPS AND BEES.

AMONGST insects there are none that illustrate the primary attributes of the Deity more strikingly than those that are *gregarious*, which build for the members of their societies spacious colleges, if I may so call them, capable often of containing many thousand inhabitants, and remarkable for the pains they bestow upon the nurture and education of their young. These are the *wasps* and *hornets*, the *bees* and *humble bees*, and the *ants*.

The wasps and hornets are remarkable for the curious papier-maché edifices, in the construction of which they employ filaments of wood,—scraped from posts and rails with their own jaws,—mixed with saliva, of which the hexagonal cells, in which they rear their young, are formed; and often their combs are separated and supported by pillars of the same material; and the external walls of their nests are formed by foliaceous layers of their ligneous paper. Latreille mentions a Brazilian species that makes an abundant provision of *honey*.

In the book of Joshua we are informed that God, by means of some animal of this genus, drove out the two kings of the Amorites from before the children of Israel. In the second volume of Lieutenant Holman's *Travels*, the following anecdote is related illustrative of this fact.

Eight miles from Grandie——, the muleteers suddenly called out, "Marambundas, Marambundas!" which indicated the approach of a host of *wasps*. In a moment all the animals, whether loaded or otherwise, laid down on their backs, kicking most violently; while the blacks, and all persons not already attacked, ran away in different directions, all being careful, by a wide sweep, to avoid the swarms of tormentors that came forward like a cloud. I never witnessed a panic so sudden and complete, and really believe that the bursting of a water-spout could hardly have produced more commotion. However, it must be confessed that the alarm was not without a good reason, for so severe is the torture inflicted by these pigmy assailants, that the bravest travellers are not ashamed to fly, the instant they perceive the terrific host approaching, which is of no uncommon occurrence on the Campos.

I shall now turn to those admirable creatures, which though, as a wise man observes, *they are little among such as fly, their fruit is the chief of sweet things*, those Heaven-instructed mathematicians, who, before any geometer could calculate under what form a cell would occupy the least space without diminishing its capacity, and before any chemist existed to discover how wax might be elaborated from vegetable sweets, instructed by the Fountain of Wisdom, had built their hexagonal cells of that pure material, had closed them at the bottom with three rhomboidal pieces, and were enabled, without study, so to construct the opposite story of combs, that each of these rhomboids should form one of those of three opposed cells, thus giving strength to the structure that, in no other place, could have been given to it. Wise in their government, diligent and active in their employments, devoted to their young and to their queen, they read a lecture to mankind that exemplifies their Oriental name—*she that speaketh*. Whoever examines their external structure, will find every part adapted to their various employments.

These valued animals, so worthy the attention of the sage, as well as the culture of the economist, are almost the only ones of the order that are guilty of no spoliation, and injure no one: they take what impoverishes none, while it enriches them and us also, by the valuable products which are derived from their skill and labour—true emblems of honest industry.

The subterranean habitations of the humble-bee are of a much ruder architecture than those of the hive-bee: the cells are made of a coarse kind of wax, but placed very confusedly, not exhibiting the geometrical precision observable in the latter.

All insects of this order, in their perfect state, imbibe the nectar from the flowers; but none, the hive and humble-bees, and one species of wasp excepted, with the view of storing it up for future use.

[KIRBY'S *Bridgewater Treatise.*]

WE write our mercies in the dust, but our afflictions we engrave in marble; our memories serve us too well to remember the latter, but we are strangely forgetful of the former.—BISHOP HALL.

SKETCHES OF NEW SOUTH WALES.

No. XIII.

South Headland of Broken Bay, called by the Natives "Barranjull."

There is one remarkable and particular feature attending almost all the *Headlands* at the mouths of rivers, on the eastern coast of Australia, which is, that the Headlands are connected to *the main land by low and narrow sand-bars*, and that the rivers have the disadvantage of being partially blocked up at their discharge by extensive sand-bars and mud-banks, and sometimes by reefs of rocks almost level with the sea. But whether these headlands were originally distinct from the main land, or whether the connecting sand-bars were formed at the same time, or subsequently, are questions yet to be resolved.

The entrance to Port Jackson, however, is an exception, and is altogether free from this disadvantage. Thus, in the sketch given in page 224, the north headland of Port Jackson appears a peninsula; and all that mighty mass of rock (connected to the main-land by a low sand-bar of not more than 150 yards in width), stands out at sea, a vast and impregnable barrier, forming a grand and magnificent entrance to the principal harbour and city of the southern world.

The low connecting sand-bar, as shown in the sketch, is covered with vegetation, and forms on one side a beautiful bay to North Harbour, but on the other a semicircular beach, upon which, in a succession of foaming breakers, roll in the mighty waters of the South Pacific Ocean. The western or inner side of this headland is indented by several inlets or bays, at the extremities of which are white sandy beaches. These bays are separated by barren promontories, whose outlines or edges are singularly fringed with ornamental masses of rock. At the head of the principal inlet a small piece of land had been cleared for a garden, and a hut built, whose tenants were, a young black (a foreigner), and a female prisoner whom he had married. In this solitary corner they had lived for some time, and by keeping a boat which they sometimes let out, and selling fish, they managed to procure the few necessaries they required. The southern and eastern aspects of this headland present one solid and unbroken mass of perpendicular rock, bold and formidable precipices, defying the fury of the wildest waves which incessantly dash with terrific violence against their walls. At the outer basement, an immense mass of flat rock juts out into the sea some hundred yards, which is covered when the tide rolls in. The height of this headland above the sea is considered, I believe, near 700 feet, and its summit from north to south is rather more than a mile in length, perfectly naked and barren. The point from which this sketch was taken, is from the high extremity of a ridge which divides a part of North Harbour from Middle Harbour, and distant about three miles from the headland. When the sea-breeze blows inland strongly, ships and vessels bound outward are often unable to tack out. In such cases, North Harbour affords a convenient shelter and anchorage, until an opportunity or change of wind takes place. At the north-eastern extremity of this harbour is a well-watered and sequestered valley, where a township was laid out in the year 1828, and since that some houses have been erected there, and a kind of wharf.

There is a Bush-track, or road, from this township, running parallel with the coast, through wooded and in some places swampy lands, to a farm of Mr. Jenkins, about ten miles distant, which is situated near the sea under the fall of a high mountain-range, and which has been for some time in a good state of cultivation; from thence the road continues along a narrow sandy beach of three miles in length, which divides the waters of Narrabun Lagoon from the Ocean. This lagoon appears to be formed chiefly by the inundating sea; for at the extremity, or northern end, of the long beach, the pass of the road is extremely narrow, and at high tide the breakers flow into the lagoon, when the road becomes impassable. It abounds with the fish called mullet, which are excellent, and they are caught in great numbers by means of nets. On its eastern side, forest-ranges descend upon it, supplying one or two streams of fresh water, and from many points this lagoon is a pretty object in the landscape. The road then continues upon higher ground, overlooking the sea, to Pitt Water, passing through several minor farms, and by the side of what are called 'Tea-tree swamps*.' Pitt Water is a broad and quiet inlet of the sea, opening into Broken Bay at the mouth of the Hawkesbury river. It is protected from the boisterous waves without, by a high forest-range and a long sand-bar, at the termination of which is the south headland of the river (another bold peninsula) called by the natives "Barranjull."

Thus, also, as shown in the sketch, this bold feature is connected with the high forest-range before mentioned, by a low sand-bar about three miles in length. The form of this headland is high, long, and narrow, having a cone at its western extremity. The inner angle formed by the western projection affords a convenient shelter for vessels in adverse weather, being secure against the violence of sea or wind: although *Broken Bay*† for the *most part* is exposed to both, and is not considered a convenient or safe harbour. Here, also, in this corner, two old weather-beaten fishermen took up their quarters, and erected a hut under the lee of some projecting rocks, and gained a rude livelihood by fishing. This headland altogether partakes of the character of the rocky ridges already mentioned, and rising as it does from out of the surrounding waters, in a succession of perpendicular and broken ridges of rock, it assumes a wild, bold, and striking appearance.

Its distance from the spot where the sketch was taken is about three miles, looking northward from the south end of the bar. Pitt Water appears a beautiful and romantic lake, and the scenery around is very picturesque, with its wooded island and still blue waters. The valleys, formed by the lateral ranges which terminate abruptly upon it, abound with rich cabbage-tree flats, and small patches of very good land. Some settlers have for many years taken up their abode in these sequestered places, more, however, for the sake of the produce of the land, than the beauty of the scenery. The shabby hut will here, probably, in a few years, give way to the ornamental villas of the rich, and all these silent waters, in times to come, may resound with the festivities of the merry and the gay. Here and there

* The Tea-tree of New South Wales is rather ornamental than otherwise, and is generally found in swampy places: but whether it is so called from bearing a resemblance to the "Tea-tree" of China, I am not aware. Its foliage is dark-green, not leafy but fibrous, which spreads in thick and elegant clusters. It grows from fifteen to twenty-five feet in height, has an *aged* but *picturesque* appearance, and would make an excellent study for the pencil. Its chief peculiarity, however, is in the nature of its bark, which consists of numerous coatings—thin as fine paper, very soft, and smooth as silk. It is commonly asserted, and it is not improbable, that the native women wrap their new-born infants with this material.

† An island, called "Mount Elliott," is a conspicuous object near the mouth of the river, and is so situated as to receive the full force of both the sea and tides, which dash against it in tremendous surf. It is a naked rock, high and conically shaped. Other reefs also extend out into the bay, over which the waters break with grea violence. Hence its name.

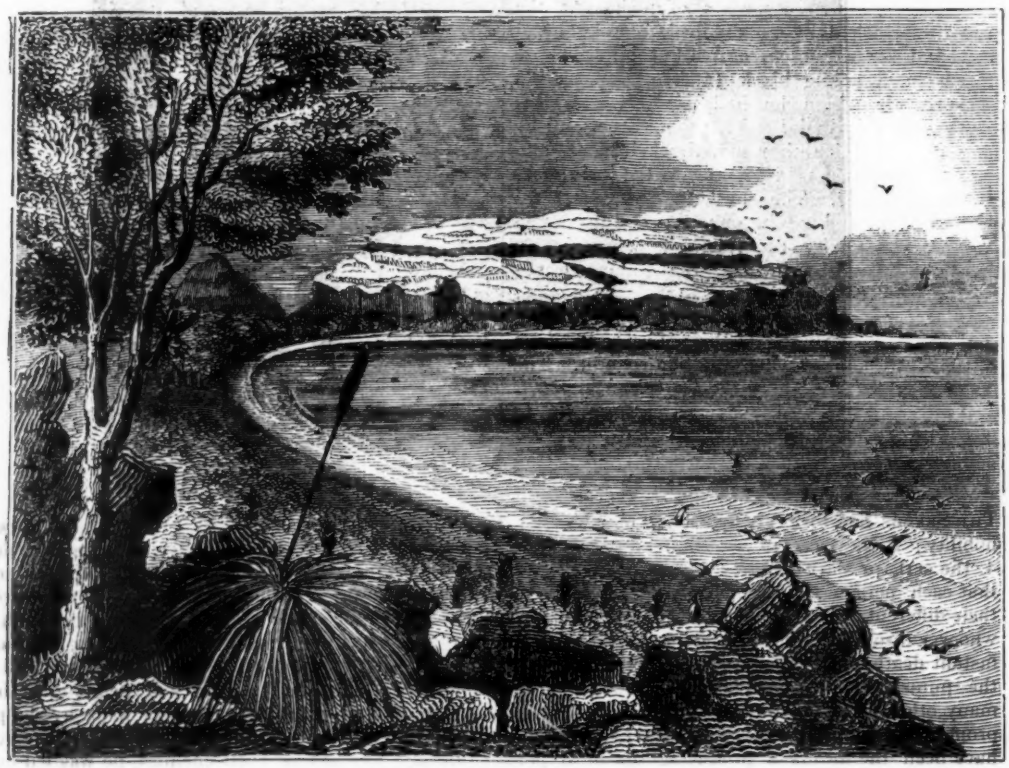
also, in the deep recesses of the neighbouring mountain, where the finest timber may be found, parties of shingle-splitters frequently resort, who, as soon as they have collected a sufficient quantity, take them to Sydney and sell them at a high price. The cash soon vanishes, when they manage to procure another three months' ration of pork, tea, and sugar, and return to their usual solitary quarters, and work hard for another supply of shingles, which are always saleable.

There are several other *minor headlands* between Port Jackson and Broken Bay, some of which are called "Farrell's Head," "The Hole in the Wall," "Turimetta," "Bungan," and "Bulgoula." All these, in some measure, bear a resemblance to each other in appearance, their summits being of a rounded form, destitute of timber or brushwood, and partially clothed with grass. Their cliffs also are pointed, abrupt, and perpendicular. The layers of strata, in some of them, appear of a mixed nature, and are, sometimes, composed of, first, a reddish sand-stone. secondly, of a blue slate-coloured stone, and, at the bottom, of a dark iron-gray rock. But the coast offers a splendid field for study to every department of geological science. Minerals, shells, and weeds may be found, altogether before unknown, and the singular formation of the coast is worthy the attention of the most experienced geologist. They jut out into the sea with bold and commanding aspects, and they all have foundations of a solid flat rock beneath them, which extend greater in some than in others. There is one point called the "Long Reef," which extends out at sea considerably beyond all the others, distant from the north headland about ten miles. Between these headlands and reefs of rocks are fine sandy beaches, which vary in shape, and in the length and depth of their curves, and, as these headlands are merely the termination of lateral ridges branching from the high main coast-range, the lands which lie between being consequently low, so that almost all the beaches are backed by valleys, in which good fresh water may be found. In some parts, ridges of sand thirty feet in height appear to be thrown up for the distance of a mile or more by the violence of the waves, and these are generally covered with vegetable creepers and spontaneous shrubs. The waves dash and break with spiteful fury upon the rocks of the cliff; but, rolling majestically in a succession of transparent breakers, they burst with a loud and hollow roar upon the far-sounding beaches.

The headland named the "Hole in the Wall," has been so called, from its having in its projecting wall of rock a huge and lofty archway, close to the water, which appears so perfect in its formation, as to excite great curiosity and admiration. Not far from this, in a steep declivity of the coast-range, are the entrances of one or two subterraneous caverns, wherein one man informed me that he had entered more than eighty yards. The sea must enter them at high tide, and as yet they have never been explored.

W. R. G.

AN old sea-captain, on being challenged, told his antagonist he had had fighting enough in his time, and was now quite weary of it; but, said he, if you are determined to fight, we must each take hold of the corner of a handkerchief, and so fire hand to hand. I cannot now fight in any other way, for I am old, my hand shakes, and if I do not get close up to my adversary I may miss him. This tremendous way of fighting, pronounced in a deep hoarse voice, brought on a short conference, which ended in peace.—GILPIN



SOUTH HEADLAND OF BROKEN BAY, NEW SOUTH WALES, CALLED BY THE NATIVES "BARRANJULL."

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